pmAIT
PRODUCT MANAGER
AUTOMATIC IDENTIFICATION TECHNOLOGY

Passive Tag Update

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Agenda

- RFID Policies
- Business Rules
- Responsibilities
- Implementation Timelines
- Army Implementation
- Challenges to Implementation
- Path Ahead/Summary

RFID – What It Is?

Radio Frequency (RF) Is Simply Wireless Technology

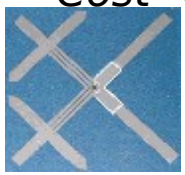
- ***Active* RFID** - Longer range (300 ft + Read, 50+ Write)
  - Continuously powered tag
    "Data Rich"
  - Low-level RF to the tag
    $15.00 Amortized
  - High-level RF back to the reader
  - Data rich have on-board storage media

Cost ~

- ***Passive* RFID** – Shorter range (< 12 ft)
  - Tags reflect energy from reader
  - Tag receives/stores energy to respond
    database)
  - Needs stronger RF signal from reader
  - Low RF strength from tag

"License Plate
(Requires link to

Cost < $.50



- **Semi-Passive RFID**
  - Similar to passive
  - Internal power (battery) for tag circuitry/sensors

Radio Frequency Identification (RFID) is the use of wireless technology
to capture and pass information about resources at rest or in motion.

DoD RFID Policy

- DoD RFID Policy
  - Initial draft signed by DUSD AT&L 2 October 2003
  - Joint IPT with Services and Service Providers worked the business rules
  - Final signed by DUSD AT&L 30 July 2004
- Policy is a collaboration between DoD and Industry
- Establishes the business rules for RFID use in DoD

DoD RFID Policy

- Logistics Decision Memorandum
  - Signed by DUSD AT&L 30 August 2004
- Result of the 28 August Defense Logistics Board (DLB)
- Expanded Active RF Policy Implementation to all consolidated shipments in DoD
- Limited initial Passive RF Policy Implementation to
  DLA supply and maintenance depots (1 year) pending
  cost benefit review by the DLB

Active RFID Business Rules

- Immediately implement *Active* RFID for all OCONUS Shipments
  - Content level detail on the RFID Tag
  - 'Tag' sustainment and ammunition shipp containers and air pallets
  - Unit move equipment
  - Pre-positioned materiel and supplies
  - Program (POM /O&M /AWCF) for RFID operations
  - Develop CONOPS and implementation strategy and procedures
- Encouraged to employ *Active* RF intra-CONUS to support normal operations and training

Passive RFID Business Rules

- DoD will be an early adopter of *Passive* RFID
- Publish DFARS Rule requiring *Passive* RFID
  - On solicitations issued after 1 October 2004
  - For delivery after 1 January 2005
- Begin implementing *Passive* RFID - 1 January 2005 (Receipt /Shipping)
- Vendors 'Tag' shipments to DoD
  - Cases
  - Warehouse pallets
  - Unique Identification (UID) packaging
- Funding – RFID is a cost of doing business

Passive RFID Business Rules

- Use Electronic Product Code (EPC) Class 0 and 1 tags until Gen 2 is available (sunset dates for Class 0 and 1, ~ 2 years)
- Use competitive vendors (PM AIT contract) to provide RFID equipment
- RFID will generate transactions of record
- Electronic Data Interchange (EDI) is necessary for data to be resident within DoD data environment to use tag reports
- Vendors will provide Advance Shipping Notices (ASN)
  - Wide area workflow
  - Web-based
  - User defined

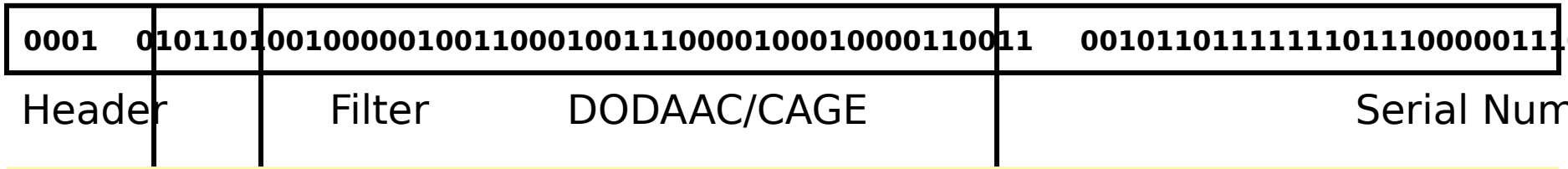
Electronic Product Code (EPC)

EPC – ***Electronic Product Code*** **(EPCGlobal, Inc.)**

- **Several different constructs**
- **Proposed Global coding standard developed at MIT AUTO-ID Cen**
- **Uses Binary Numbering System**
- **Unique product identification - Trillions of non-repeating possibi**

Construct

96 Bits Today --- *256 Bits Tomorrow*



Passive RF Tag Characteristics	Class 0 Class 1 *Class 1 Gen 2*	96 Bits 96 Bits *256 Bits*	Read Only Write Once *Read/Write*

The UID data is too large to fit on an EPC Passive RF Tag!

Responsibilities

- DoD Log AIT Office is lead agency for AIT in DoD
  - Establishes and maintains RF Tag formats/standards
  - Coordinates updates to DoD regulations
- PEO EIS, PM AIT is the procurement activity for RFID products and manages the RF-ITV Infrastructure
  - Awards and administers AIT/RFID contracts
  - Manages the Radio Frequency In-Transit Visibility (RF-ITV) infrastructure
  - Programs and manages centralized funding in support of RF-ITV servers
  - Ensures compliance with information assurance and networthiness
  - Assists other AIT/RFID disciplines to include HERO certification and frequency management

Responsibilities

- DLA is procurement and single manager for active RF tags
  (4 tag management communities; sustainment, ammunition, unit movement, and pre-positioned stocks)
- USTRANSCOM (DoD DPO) provides infrastructure to strategic CONUS/OCONUS aerial and seaports (includes commercial,
  if required)
- Services and other supporting agencies program and acquire infrastructure and RF capabilities for their locations

DoD RFID Policy Implementation Timeline

- 31 Jul 04: Services complete Active RF Implementation Plan
- 29 Oct 04: Services complete Passive RF Implementation Plan
- 1 Oct 04: RFID required on solicitations for delivery after Jan 05
- 1 Jan 05: Initial implementation of EPC Passive RF within DoD
  - Class 0 and 1 tags on cases, pallets, packaging for UID items
  - Supply Classes: I (rations), II, VI, IX
  - Locations: Defense Depots San Joaquin and Susquehanna
- 1 Jan 06:
  - Class 0 and 1 tags on cases, pallets, packaging for UID items
  - Class 1 Gen 2 tags (if available)
  - Supply Classes: I, IIIP, IV, V (if HERO), VII, VIII
  - Locations: Maintenance Depots, DLA Distribution Depots

DoD RFID Policy Implementation Timeline (Cont'd.)

- 1 Jan 07: Remaining Classes of Supply except X and all locations begins
- FY07 for RF-capable business processes
  - Only RF-capable peripherals and labels
  - Logistics Automation Systems involved in shipping/receiving/inventory
- Dates TBD
  - Update DoD Supply Chain Integration Manual (DoD 4140.1-R)
  - Update Defense Transportation Regulation (DoD 4500.9-R)
  - Update Military Standard 129 (DoD shipping labels)
  - Managers of Log-Mod Systems update documentation

Army RFID (Draft) Strategy

- Immediately expand use of active RFID in support of the Focus Areas
  - SARSS BPS into ~527 sites FY05-FY07 (could be as high as 842)
  - Expand nodal tracking using RFID in support SARSS BPS implementation
  - Expand use of active RF into CONUS and other COCOMs
- Proceed cautiously on passive RFID implementation per DoD RFID Policy
  - Participate in DoD IPT and planning sessions
  - Conduct BCA and explore potential opportunities
  - Monitor progress of the passive RFID technology
  - Blueprint requirements for RFID and EPC in LMP, GCSS-A/T, PLM+ to support SALE
  - Conduct demonstration projects; Class I Combat Feeding; Individual Protective Equipment (IPE)
- POM and resource requirements

RFID in Global Supply Chain

Today

ACTIVE

Future

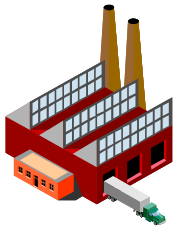
Manufacturers/ Suppliers

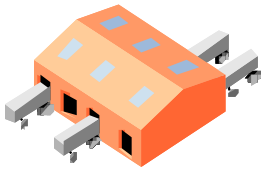
Distribution Centers/Depots

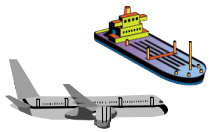
POEs/PODs

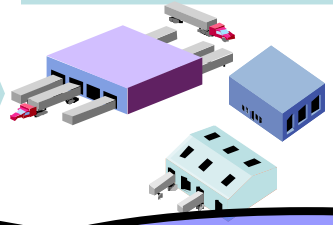
Transportation/Supply/ Theater Depots/TDCs

Customers









PASSIVE

ACTIVE

PASSIVE

Enables Shipping Node

TAV / ITV DoD Supply Chain Transportation

Enables Receiving Node

Challenges

- Schedule and funding synchronization
- Communications, data, and metadata
- Maturity of RFID technology
- Tag and hardware standards/interoperability/formats
- Global Spectrum Compatibility
- Current requirements versus future Automated Information Systems (AIS) initiatives
  - Single Army Logistics Enterprise (SALE) fielding
  - Operational Transformation

Path Ahead/Summary

- OSD RFID policy for Active and Passive Technology integration
- Army participate in joint development of policy, concepts, and implementation strategies for RFID technology
  - Expand Active RFID ITV Architecture – Integrate to support all Combatant Commander AORs (Joint-service/Coalition customers)
  - Seek ‘value’ opportunities for use of Passive RFID in core business processes
- Include AIT/RFID/UID in current and future enterprise AIS developments
- Take an holistic approach -- ensure proper institutionalization

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Questions?

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